

InGaN High Temperature Photovoltaic Cells, Phase II

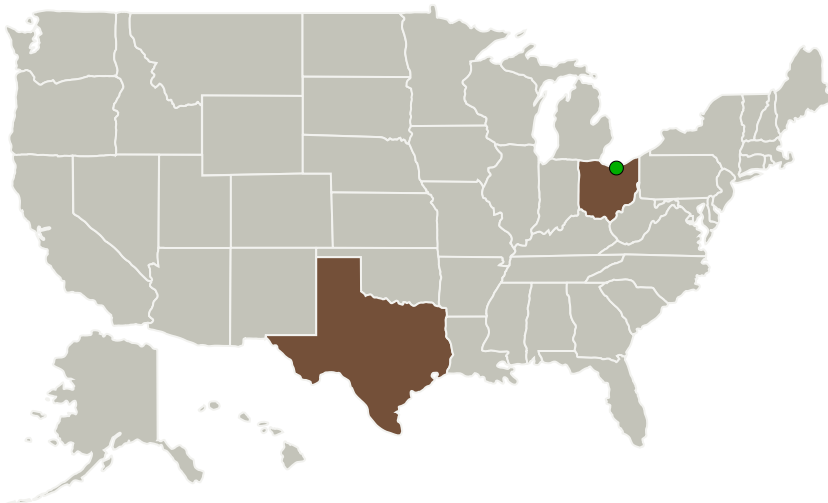
Completed Technology Project (2010 - 2012)



Project Introduction

The objectives of this Phase II project are to develop InGaN photovoltaic cells for high temperature and/or high radiation environments to TRL 4 and to define the development path for the technology to TRL 5 and beyond. The project will include theoretical and experimental refinement of device structures produced in the Phase I, as well as modeling and optimization of solar cell device processing. The devices will be tested under concentrated AM0 sunlight, at temperatures from 100°C to 250°C, and after exposure to ionizing radiation. The results are expected to further verify that InGaN can be used for high temperature / high radiation capable solar cells in NASA space missions.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Integrated Micro Sensors, Inc.	Lead Organization	Industry	Houston, Texas
 Glenn Research Center(GRC)	Supporting Organization	NASA Center	Cleveland, Ohio



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Primary U.S. Work Locations

Ohio

Texas

Project Transitions

 **January 2010:** Project Start

 **April 2012:** Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/139112>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Integrated Micro Sensors, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

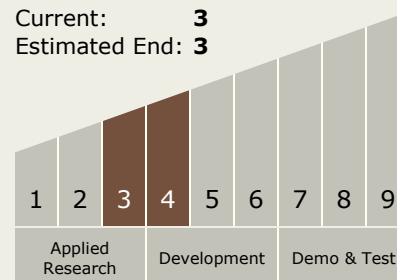
Carlos Torrez

Principal Investigator:

Chris Boney

Technology Maturity (TRL)

Start: **4**
Current: **3**
Estimated End: **3**



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Technology Areas

Primary:

- TX03 Aerospace Power and Energy Storage
 - └ TX03.1 Power Generation and Energy Conversion
 - └ TX03.1.1 Photovoltaic

Target Destinations

The Moon, Mars, Outside the Solar System, The Sun, Earth, Others Inside the Solar System